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The Effect of Weight on the Perceptions of and Attitudes Toward Individuals with Anorexia Nervosa

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THE EFFECT OF WEIGHT ON THE PERCEPTIONS OF AND ATTITUDES TOWARD INDIVIDUALS WITH ANOREXIA NERVOSA

by

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ABSTRACT

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The present study investigated perceptions, attitudes, and beliefs toward individuals with anorexia nervosa (AN) of varying weight. The primary aim was to examine the associations between eating disorder symptom level and stigma toward eating disorders, perceptions of acceptability/desirability of AN, and perceptions of severity of AN. The second aim was to investigate the impact of body weight on males' and females' perceptions and attitudes toward AN, specifically on their stigma toward eating disorders, perception of the severity of AN, and perception of acceptability or desirability of AN behaviors and characteristics. Two-hundred fifty-seven university students (187 females, 70 males, mean age = 22.5, *SD* = 6.59) in undergraduate courses participated in the online study, and were randomly assigned to view one of three underweight female figures (extremely thin, moderately thin, and mildly thin). Participants read a vignette describing an individual meeting full diagnostic criteria for

anorexia and completed measures assessing stigma toward individuals with AN and eating disorder symptomatology.

Regarding the first aim, it was hypothesized that an inverse relationship would emerge between eating disorder pathology in participants and stigmatizing attitudes and beliefs. In support of the hypothesis, findings revealed that increased acceptability of AN and greater perceptions of AN severity were associated with higher levels of eating disorder symptoms. In contrast to the hypothesis, current self-reported eating disorder symptoms were not significantly associated with lower levels of eating disorder stigma. It was also hypothesized that female participants would perceive AN as more positive and acceptable, and as less severe than male participants. The hypothesis was partially supported in that females indicated less stigma toward EDs and reported perceiving AN to be more serious than males. Greater acceptability was not more common among women. In regard to the second aim, there was no significant group differences found in eating disorder stigma, perceived acceptance of AN, and perceived severity of AN according to weight conditions, which was contrary to expectations. Implications of the study are discussed in terms of future research.

(83 pages)

PUBLIC ABSTRACT

The Effect of Weight on the Perceptions of and Attitudes Toward Individuals with Anorexia Nervosa

Allison E. White

A large body of research has shown that stigmatizing attitudes toward individuals with mental illness are widespread and prevalent. Fewer studies have focused on stigma toward eating disorders, in general, and even less have focused on the stigma of anorexia nervosa (AN), specifically. Preliminary research indicates that AN may be both stigmatizing and admired, but the factors contributing to the perception of AN has not been adequately studied. To date, researchers have yet to examine the role of body size in the perception of and attitudes toward individuals with AN. By showing participants one of three female figures varying only in body size along with a vignette describing an individual with AN, this study sought to extend the current research by examining the effect body weight has on participants' perceptions of individuals with AN, and identify possible variables that contribute to their perception, such as gender and eating disorder symptomatology.

Findings revealed that greater acceptance/desire of AN and greater perception of the severity of AN were associated with higher levels of eating disorder symptoms. Higher levels of eating disorder symptoms were not significantly associated with lower levels of eating disorder stigma. Contrary to expectations, no significant group differences were found in eating disorder stigma, perceived acceptability of AN, or

perceived severity of AN according to target body weight. Since no significant differences were found based on target weight, results indicate that body weight had no effect on stigmatizing attitudes or perceptions of AN. Finally, greater acceptance was not more common among women than men. However, females tended to perceive AN as more severe and reported less stigma toward individuals with EDs than males. These findings contribute to knowledge about what may or may not contribute to the stigma of EDs and the perceptions of acceptability and severity of AN. As treatment seeking for anorexia is low, partly as a result of stigmatization, it is essential to understand attitudes and beliefs about AN to inform the development of effective treatment and interventions.

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CONTENTS

Page

ABSTRACT iii

PUBLIC ABSTRACT v

ACKNOWLEDGMENTS vii

LIST OF TABLES x

LIST OF FIGURES xi

CHAPTER

I. INTRODUCTION 1

Research Question 1 and Hypothesis 8
Research Question 2 and Hypotheses 8

II. REVIEW OF THE LITERATURE 9

Anorexia Nervosa 9
Perceptions, Attitudes, and Stigmatization of Anorexia Nervosa 12
Perceptions of Underweight and Emaciated Individuals 18
Gender Differences in Perceptions of Anorexia Nervosa 22
Methodological Limitations 23
Summary 24

III. METHODS 26

Participants 26
Measures 27
Procedures 35
Statistical Analysis 37

IV. RESULTS 39

Research Question 1: Eating Disorder Symptom Level, Stigmatization and Perceived Acceptability 39
Research Question 2: Participant Gender and Target Body Weight 44

V. DISCUSSION 49

Limitations and Future Directions 53
Implications of the Current Study 54

REFERENCES 56

APPENDICES 67

Appendix A: Vignette 68
Appendix B: Demographics Form 70

LIST OF TABLES

Table		Page
1.	Demographic Characteristics	27
2.	Responses to Item: "How Would You Describe the Weight of the Woman Pictured?"	31
3.	Descriptive Statistics on Measures of ED Stigma, Acceptability/Severity, and ED Symptoms	39
4.	Means and Standard Deviations for Test Measures	40
5.	Correlations Between ED Symptomatology, ED Stigma, Perceived Acceptability of AN, and Perceived Severity of AN for Overall Sample	41
6.	Correlations Between ED Symptomatology, ED Stigma, Perceived Acceptability of AN, and Perceived Severity of AN for Males and Females	42
7.	Independent *t* Test Comparing Groups with High and Low ED Symptom Levels	43
8.	Independent *t* Test Comparing Overall ED Symptom Levels in Males and Females	44
9.	Tests of Between-Subjects Effects	45
10.	Estimated Marginal Means	46
11.	Responses to Item: "In Your Opinion, What Would You Say Emma's MAIN Problem is?"	48

LIST OF FIGURES

Figure Page

1. The photographic images used in this experiment..... 30
2. Estimated marginal means for eating disorder stigma..... 47
3. Estimated marginal means for perceived severity of anorexia 47
4. Estimated marginal means for perceived acceptability of anorexia 48

CHAPTER I

INTRODUCTION

According to the *Diagnostic and Statistical Manual of Mental Disorders*--5th ed. (*DSM-5*; American Psychiatric Association [APA], 2013), eating disorders (EDs) are characterized by "a persistent disturbance of eating or eating-related behavior that results in the altered consumption or absorption of food and that significantly impairs physical health and psychosocial functioning" (p. 329). EDs are complex in nature and have a significant, daily impact for those who experience them.

Three full-threshold EDs are identified in DSM-5: anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED). AN is defined by a persistent restriction of caloric intake, extreme fear of gaining weight, or persistent behavior that interferes with weight gain, and a disturbance in body image. A body weight that is significantly low (i.e., less than minimally normal or, for children and adolescents, less than minimally expected in the context of age, sex, and developmental trajectory) must be maintained for a diagnosis of AN. BN is a disorder characterized by recurrent episodes of binge eating, recurrent inappropriate compensatory behaviors to prevent weight gain (e.g., vomiting, taking laxatives, engaging in excessive exercise), and self-evaluation that is largely influenced by body weight and shape. BED involves recurrent episodes of binge eating that occur in the absence of regular use of compensatory behaviors, such as purging, and are marked by distress and loss of control over eating.

Eating disorders, particularly AN, are marked by distress, functional impairment, chronicity, morbidity, and mortality (Arcelus, Mitchell, Wales, & Nielsen, 2011; Crow et

al., 2009; Hudson, Hiripi, Pope, & Kessler, 2007; Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). In fact, AN consistently has the highest rate of mortality of any psychiatric disorder, with mortality rates that are more than 10 times higher than expected in the general population (Arcelus et al., 2011; Button, Chadalavada, & Palmer, 2010; Garner & Keiper, 2010). AN is also associated with severe medical complications that are life threatening and are related to increased morbidity. Despite the serious nature of this illness, many individuals with AN never seek treatment (Currin et al., 2007; Fairburn, Welch, Norman, O'Connor, & Doll, 1996; Mond, Hay, Rodgers, & Owen, 2007; Striegel-Moore et al., 2008; Striegel-Moore, Leslie, Petrill, Garvin, & Rosenheck, 2000).

One possible barrier to the treatment of AN is stigma or the "sociocultural process by which members of marginalized groups are labeled by others as abnormal, shameful, or otherwise undesirable" (Jones & Corrigan, 2014, p. 9). According to the World Health Organization (WHO, 2001), stigma, discrimination and neglect prevent care and treatment from reaching individuals with mental illness. A large body of empirical research has confirmed that stigmatizing attitudes toward individuals with mental illness is widespread and prevalent. However, the vast majority of these studies have focused on stigma associated with disorders such as schizophrenia, major depressive disorder, anxiety disorder, and bipolar disorder (Angermeyer & Dietrich, 2006; Corrigan, 2000; Corrigan, Druss, & Perlick, 2014; Corrigan et al., 2002; Corrigan & Watson, 2007; Couture & Penn, 2003; Crisp, Gelder, Rix, Meltzer, & Rowlands, 2000; Parcesepe & Cabassa, 2013; Schomerus et al., 2012; Wood, Birtel, Alsawy, Pyle, & Morrison, 2014),

while often neglecting eating disorders.

Despite being neglected in much of the literature on stigma and mental illness, preliminary evidence shows that stigma toward individuals with AN exists. For example, prior studies reflect that the most prevalent stigmatizing attitudes of individuals with AN center around themes of personal responsibility, attention-seeking, weakness of character, and the belief that people with EDs should be able to "pull themselves together" (Crisp, et al., 2000; Ebneter & Latner, 2013; Griffiths, Mond, Murray, & Touyz, 2014; Mond, Robertson-Smith, & Vetere, 2006; Roehrig & McLean, 2010; Stewart, Keel, & Schiavo, 2006; Wingfield, Kelly, Serdar, Shivy, Mazzeo, 2011). In a study comparing the degree of stigma toward individuals with AN, BN, and major depressive disorder (MDD), Roehrig and McLean discovered that 37.5% of their sample held the attitude that individuals with AN were responsible for their condition compared to 23.7% for individuals with BN and merely 7.5% for individuals with MDD.

Moreover, the experience of stigma among individuals with ED has been shown to be associated with adverse outcomes (Griffiths, Mond, Murray, & Touyz, 2015a). In a study examining the prevalence and correlates of stigma among individuals with EDs, two beliefs ("I should be able to just pull myself together" and "I am personally responsible for my condition") were found to be often experienced (often or always: 77.3% and 68.8%, respectively) and particularly harmful, (very or extremely damaging: 83.6% and 74.8%, respectively). Participants with AN more commonly experienced the belief they were "weak," "seeking attention," and a "bad influence on others." Griffiths et al. found that more frequent stigmatization was associated with more negative outcomes,

including higher levels of ED psychopathology, a longer duration of disorder, lower self-esteem, and more self-stigma of seeking psychological treatment. Given the association between stigma toward individuals with AN and adverse outcomes among individuals with AN demonstrated in this study, these findings underscore the importance of extending research on the prevalence and correlates of stigma toward specific eating disorders.

Although the aforementioned studies present evidence of negative stigma toward individuals with AN, other research has revealed that the nature of how AN is stigmatized differs from that of other mental illnesses. For example, individuals with AN tend to be viewed as less dangerous and less unpredictable than individuals with other psychiatric disorders such as MDD, schizophrenia, and anxiety disorders (Crisp, Gelder, Goddard, & Meltzer, 2005; Edneter & Latner, 2013; de Toledo Piza Peluso & Blay, 2009; Parcesepe & Cabassa, 2013; Wang & Lai, 2008). Also, stigma toward individuals with AN has been shown to be uniquely linked with positive attributes (Easter, 2012; Griffiths, Mond, Murray, & Touyz, 2015b; Mond & Arrighi, 2011, 2012; Mond, Robertson-Smith, & Vetere, 2006). Some of the features of AN, such as the rigid control of caloric intake and ability to lose weight, have an ego-syntonic quality that may be considered "volitional" in nature (Easter, 2012). That is, individuals (i.e., friends, family members, treating professionals) may recognize the severity of the condition, yet assign desirable, almost enviable attributes, to disordered eating behavior (e.g., weight control, low body weight). Research has revealed that these features of AN are perceived as acceptable and desirable—a feature perhaps unique to ED among all psychological

disorders (Easter, 2012; Mond & Arrighi, 2011, 2012; Mond et al., 2006; Roehrig & McLean, 2010). In a society that places value on an increasingly thin female body size, it is possible that features of AN (e.g., low body weight, ability to restrict diet, etc.) evoke admiration and envy in some.

Roehrig and McLean's (2010) study revealed that more than half of their all-female sample expressed feelings of admiration toward the AN target's ability to control her eating and exercise. They also found that a significant proportion of their sample thought it "might not be too bad" to have this condition. In contrast, not a single person reported that the depressed individual exhibited similarly desirable or admirable behaviors or characteristics. The fact that certain AN symptoms are regarded as normative, desirable, and admirable is an aspect unique to AN, as similar attitudes are non-existent across other mental disorders.

The perception of AN symptoms as desirable, acceptable, or admirable may be explained by eating disorder symptomatology or personal experience. In a study by Mond and Arrighi (2012), individuals with ED perceived eating disorder behaviors as more acceptable and desirable compared to asymptomatic individuals. Research suggests that a personal history of AN decreases the extent of stigma directed towards individuals with AN in the future (Corrigan, Kerr, & Knudsen, 2005; Reinke, Corrigan, Leonhard, Lundin, & Kubiak, 2004). Thus, it could be hypothesized that having a history of personal eating pathology may result in less biased treatment toward those with eating disorders.

To some degree, bias toward eating disorders may reflect bias toward weight. AN

is distinguished in part upon weight (e.g., a diagnosis of AN requires a significantly low body weight, described in the DSM-5 as a body mass index (BMI) that is less than 18.5 kg/m^2; APA, 2013). Individuals who meet this requirement can range from being underweight to emaciated. Studies examining weight bias, but not any aspect of AN or any ED, suggest that people tend to view emaciated individuals (BMI <15 kg/m^2) negatively in terms of personality (e.g., lonely, vain, selfish), level of physical attractiveness, and competence (Malloy, Lewis, Kinney, & Murphy, 2012; Swami & Monk, 2013; Tantleff-Dunn, Hayes, & Braun, 2009). In fact, bias towards emaciated individuals has been shown to be equal to, if not greater than, the bias towards obese individuals. Conversely, underweight (but not emaciated) individuals (BMI of 15-18.5 kg/m^2) tend to be rated more attractive, likeable, competent, and intelligent (Malloy et al., 2012; Tovée, Reinhardt, Emery, & Corneilssen, 1998; Whisenhunt et al., 2012; Wilson, Tripp, & Boland, 2005).

Research exploring weight bias in relation to occupational/educational decisions, helping behaviors, and child adoption has demonstrated similar findings (Swami, Chan, Wong, Furnham, & Tovée, 2008; Swami & Monk, 2013; Swami, Pietschnig, Stieger, Tovée, & Voracek, 2010). Results from several studies where participants were asked to evaluate a series of photographic images of women that varied in body size revealed that emaciated individuals were less likely to be selected for a job or a promotion, more likely to be terminated, less likely to be chosen to adopt a child, less likely to be elected for admission to college, and less likely to receive help following a traffic accident than their underweight, normal, and overweight counterparts (Swami et al., 2008; Swami & Monk,

2013; Swami, Pietschnig, Stieger, Tovée, & Voracek, 2010). In contrast, the figures most selected for a job, promotion, college admission, child adoption, and to receive help were underweight (Swami et al., 2008; Swami & Monk, 2013; Swami, Pietschnig, et al. 2010). Therefore, it may tentatively be concluded that an individual's weight status may be a contributing factor in how he/she is treated and/or perceived. It is critical for research efforts to explore the relative impact that weight status can have in other hypothetical situations, such as the stigmatization and admiration of individuals with AN.

Overall, our understanding of how people perceive individuals with AN is incomplete. The extent literature suggests a negative bias toward individuals with AN. However, some aspects of AN have been shown to be less negatively perceived, such as the thinness and asceticism associated with AN (Crisp, 2005). As an extension of this literature, the present study sought to further examine the individual difference factors that may play a role in how individuals with AN are perceived by others. To date, research on the stigmatization of AN has not examined the role that body size (operationalized according to weight status) in individuals with AN may have on how others perceive them. Additionally, the influence of gender and eating disorder symptom level has largely been neglected as factors that may be associated with an individual's reported levels of stigma toward ED or perceived acceptability/desirability of AN.

By showing participants one of three female figures varying only in body size along with a vignette describing an individual meeting full diagnostic criteria for AN, this study sought to extend the current research by examining the effect of BMI on participants' perceptions and attitudes toward individuals with AN, and identify factors

associated with ED stigma, perceived acceptability of AN, and perceived severity of AN (i.e., gender, ED symptomatology, and demographics).

Research Question 1 and Hypothesis

Research Question 1: Are there associations between eating disorder symptom level and stigmatization of eating disorders, perceived acceptability of AN, and perceived severity of AN?

Hypothesis A: It is hypothesized that an inverse relationship will emerge between eating pathology and stigma, meaning that increased levels of eating disorder symptomology will be associated with lower levels of ED stigma, greater acceptance of AN, and lower levels of perceived severity.

Research Question 2 and Hypotheses

Research Question 2: What is the impact of body size and gender on perceptions and attitudes toward individuals with AN, specifically on eating disorder stigma, perceived severity of AN, and perceived acceptability/desirability of AN?

Hypothesis A: Participants shown an emaciated figure will report greater levels of stigma toward eating disorders, lower levels of perceived acceptability of AN, and greater levels of perceived severity of AN than those shown an underweight figure. Thus, target BMI will be inversely related to participant's stigma of AN.

Hypothesis B: Perceptions of AN will be more positive and less severe among female participants than among males.

CHAPTER II

REVIEW OF THE LITERATURE

Anorexia Nervosa

AN is a serious, life-threatening psychiatric disorder characterized by three essential features: a disturbance in body image; an intense fear of gaining weight, or persistent behaviors that interfere with weight gain; and a persistent restriction in caloric intake, resulting in a significantly low body weight (APA, 2013). AN primarily occurs in adolescent females and young women, although it also occurs in males, older women, and younger girls. Incidence rates are highest for females aged 15-19 years (Smink, van Hoeken, & Hoek, 2012). With an incidence rate of 104 per 100,000 adolescent females per year in 2001-2010, females aged 15-19 constitute approximately 40% of all identified cases (Stice, Marti, & Rohd, 2013). In contrast, the incidence rate of AN for males is less than 1 per 100,000 person years (Woodside et al., 2001). According to Smink, van Hoeken, and Hoek (2013), the lifetime prevalence of DSM-5 AN is between 1.7-4.0% for women and about .24% for men.

In addition to being relatively common among young women, AN is a chronic eating disorder with elevated morbidity. Mood, anxiety, and substance use disorders commonly co-occur with AN (Meczekalski, Podfigurna-Stopa, & Katulski, 2013). Lifetime prevalence rates of mood disorders in patients with AN range from 31% to 89% (Halmi et al., 2005; Krug et al., 2009). Depression is the single most common comorbid psychiatric disorder among individuals with AN, but obsessive-compulsive disorder,

social anxiety disorder, substance use disorders, body dysmorphic disorder, and personality disorders may co-occur with AN as well (APA, 2013; Hudson et al., 2007; Swanson et al., 2011).

During its course, many health complications can occur as a result of AN, including anemia, amenorrhea, hair loss, cardiovascular disturbances, gastrointestinal disorder, diabetes mellitus, and osteoporosis (Attia & Walsh, 2009; Herzog et al., 1999). Multiple studies have demonstrated that extended starvation during brain maturation might lead to brain dysfunctions (Kaye, Fudge, & Paulus, 2009; McAdams & Krawczyk, 2011; Rothemund et al., 2011). In addition, chronic AN often disrupts educational and occupational functioning as well as interpersonal relationships (Bühren et al., 2014). Less than half of individuals with AN fully recover; approximately one third partially recover, and 20% develop a chronic course of AN (Steinhausen, 2009).

Moreover, AN has the highest rate of mortality of any psychiatric disorder (Arcelus et al., 2011; Harris & Barraclough, 1998; Smink et al., 2012). In a meta-analysis of excess mortality, which is defined as mortality above what is expected based on the mortality rate in the general population (Checchi & Roberts, 2005) in the 1990s, the ratio of observed to expected deaths (i.e., the standardized mortality ratio [SMR]) for AN was consistently the highest compared to other psychiatric disorders at 5.9 with an average follow-up period of 14.2 years (Arcelus et al., 2011). The crude mortality rate (CMR) for AN is approximately 5% per decade, or 5.1 deaths per 1,000 deaths years (Arcelus et al., 2011; Smink et al., 2012). Death among individuals with AN is commonly caused by suicide or medical complications associated with the disorder itself (Arcelus et al., 2011;

Franko et al., 2013). In fact, one in five deaths among individuals with AN result from suicide, yielding a suicide rate eight times higher than the general population (Herzog et al., 2000; Pompili, Mancinelli, Girardi, Ruberto, & Tatarelli, 2004; Suokas et al., 2014).

Despite the serious and potentially fatal consequences of AN, many individuals with AN never receive treatment (Currin et al., 2007; Mond et al., 2007; Striegel-Moore et al., 2000). Hackler, Vogel, and Wade (2010) found that less than 45% of individuals diagnosed with an eating disorder (ED) receive professional treatment. Early treatment is vital for ensuring positive outcomes in cases of AN (Mehler, Cleary, & Gaudiani, 2011). Corrigan and Rüsch (2002) have suggested that the emotional and psychological burden of stigma deters individuals with mental illness from seeking the psychological and medical treatment they need. Individuals with AN not only bear the stigma of having a mental illness, in general, but must face the stigma that is uniquely associated with the disorder, such as being perceived as seeking attention, weak, and superficial (Crisp, 2005).

Research has found that individuals with AN are reluctant to self-disclose their eating disorder status to others, including clinicians, due to feeling negatively about oneself for having such a disorder (Ben-Porath, 2002; Deane & Todd, 1996). Cachelin and Striegel-Moore (2006) similarly discovered that the main reason women experiencing symptoms of an eating disorder did not seek help was shame and their fear of being labeled as having the disorder. Therefore, it appears that having AN may negatively affect the way people feel about themselves, their perception of how others view them, and their willingness to seek treatment.

Perceptions, Attitudes, and Stigmatization of Anorexia Nervosa

Stigma is defined as the "sociocultural process by which members of marginalized groups are labeled by others as abnormal, shameful, or otherwise undesirable" (Jones & Corrigan, 2014, p. 9). According to social-cognitive models, there are three basic components of stigma: stereotypes, prejudice, and discrimination (Corrigan, 2000; Corrigan & Rüsch, 2002; Fiske, 1998; Ottati, Bodenhausen, & Newman, 2005). In line with social-cognitive theory, *stereotypes* are beliefs about members of a particular group (Corrigan, 2007). *Prejudice* refers to the negative affective response toward a particular group and connotes agreement with a stereotype (Jones & Corrigan, 2014). *Discrimination* is the behavioral manifestation of prejudice (Jones & Corrigan, 2014).

AN has been found to be both stigmatizing (Crisp, 2005) and admired (Roehrig & McLean, 2010). Several studies have found evidence of a blame-based stigma for AN (Crisafulli, Thompson-Brenner, Franko, Eddy, & Herzog, 2010; Crisp, 2005; Crisp et al., 2005, 2000; Ebneter & Latner, 2013; Roehrig & McLean, 2010). A significant portion of respondents in one study indicated believing that individuals with eating disorders should "pull themselves together" and that they have "only themselves to blame for their condition" (Crisp et al., 2000).

Crisafulli, Von Holle, and Bulik (2008) measured stigmatization of individuals with AN in terms of participants' beliefs about the causes of AN, the characteristics of individuals with AN, and their opinions about those with AN. Before completing the questionnaires, participants received information that either emphasized the cause of AN

as genetic or sociocultural. Participants who received information on the sociocultural causes of AN were more likely to attribute AN to parenting, society's thin ideal, and vanity. Further, participants who received a sociocultural explanation were more likely to endorse items indicating agreement with the belief that individuals with AN are to blame for their condition and the belief that individuals with AN use their illness to get attention for themselves.

In addition, Ebneter and Latner (2013) investigated stigmatizing attitudes across eating disorders, obesity, and major depressive disorder. Using a within-participant design, participants (n = 447) read five vignettes describing a 19-year-old woman with AN, BN, BED, major depressive disorder (MDD), or obesity and then completed questionnaires designed to measure stigmatizing attitudes. Results showed that participants viewed targets with AN and BN as more to blame and less impaired than targets with MDD, but less to blame and more impaired than targets with BED and obesity. Results corroborated prior findings demonstrating blame-based stigma toward individuals with AN.

Moreover, Stewart, Schiavo, Herzog, and Franko (2008) found that specific forms of stigmatization (e.g., stereotypes, prejudice, and discrimination) were associated with AN more than other physical and psychological disorders. After reading one of four vignettes describing a 22-year-old woman with either AN, depression, schizophrenia, or mononucleosis, participants (n = 80) completed a series of stigma questionnaires. Participants were found to largely endorse stereotypes pertaining to the severity and etiology of AN. For example, a lack of self-discipline, social support, and parenting were

attributed more to the development of AN than to the development of mononucleosis or schizophrenia. Prejudice was examined using a 20-item Likert scale where the highest and lowest scores were labeled with opposite characteristics (e.g., strong vs. weak). Higher scores indicated greater endorsement of negative stereotypes, and, thus, greater prejudice. The researchers found that participants attributed the fewest positive traits to the target with AN compared to either the target with schizophrenia or mononucleosis. Discrimination was assessed by measuring participants' anticipated reaction to personal interaction with the target (e.g., rooming with the target, going to dinner together). Participants reported greater anticipated discomfort interacting with the AN target than with the targets with mononucleosis and depression.

In another study examining perceptions of AN, Watters and Malouf (2012) used an experimental method to randomly assign a large sample (n = 636) to read either a description of an individual with or without AN and rate the described person on personality characteristics. They found that individuals with AN were perceived as having less desirable personality traits compared to individuals without AN. More specifically, participants rated individuals with AN lower in emotional stability, agreeableness, extroversion, and openness than individuals without AN. Findings are consistent with results from previous research that demonstrate individuals with AN are perceived less positively with regard to personality characteristics as compared to individuals with physical health conditions (Stewart et al., 2006, 2008). In addition, results indicated that ratings on personality characteristics did not significantly differ between females and males. Together, these findings provide evidence of specific

stereotypes, prejudice and discrimination toward individuals with AN, thereby demonstrating that people commonly perceive individuals with AN negatively.

Nevertheless, research examining perceptions of individuals with AN reveal that attitudes toward AN are not always negative. For example, unlike other mental illnesses, individuals with AN are not generally perceived as dangerous or unpredictable (Crisp, et al., 2000; Parcesepe & Cabassa, 2013; Wang & Lai, 2008). Some symptoms of AN have been shown to be considered normal, such as body dissatisfaction (e.g., preoccupation with weight/size, wanting a flat stomach), whereas other aspects may be viewed as desirable (Huon, Brown, & Morris, 1988). Attributes ascribed to individuals with AN frequently differ from those ascribed to other psychiatric disorders, but the perception of envy and/or admiration toward an individual with a mental disorder may perhaps be unique to AN among all mental health conditions.

In a study comparing stigma associated with AN, BN and depression, Roehrig and McLean (2010) provided empirical evidence of these unique attributes. Compared to targets with depression and BN, targets with AN were shown to be more likely perceived as fragile, responsible for their disorder, and as using their disorder to gain attention. Consistent with previous research, these findings indicate that individuals with AN generally elicit greater stigma than individuals with depression and BN. Although individuals with AN elicited greater stigma, a large majority of participants reported having feelings of admiration toward the AN target's ability to exercise every day and control her weight. A large proportion of the sample also endorsed an item indicating they believed that it might not be so bad to have an eating disorder. Lastly, most

participants believed that others are inclined to imitate eating disorder behaviors. This likely reflects the fact that certain ED features are perceived as normative, desirable, and attention garnering.

Additional studies indicate that people not only admire, but also envy the discipline and self-control exhibited by individuals with AN to control diet and weight. Branch and Eurman (1980) conducted a study of friends and relatives of patients with AN to understand social attitudes toward the patient. Although all respondents expressed concern, half of all respondents expressed envy of the patient's self-control and discipline concerning food. This suggests that the self-control of an individual with AN may be perceived as a covetable and desirable aspect of the disorder, until an individual's health is seriously at risk.

Similarly, in a study by Mond et al. (2006), results indicated that some women view characteristics of AN as acceptable and even desirable. In a community sample of 250 women, the researchers found that 29.6% of respondents had occasionally, often, or always thought it "might not be too bad" to have AN, given the target's ability to lose weight. Interestingly, results suggest that disordered eating may moderate this finding. Participants were assessed for eating disorder pathology and those with scores indicative of eating pathology were more likely to think that it "might not be too bad" to have AN (60.8%) in comparison to those without eating disorder symptomology (21.6%; Mond et al., 2006). Moreover, approximately one-fourth (23.6%) of participants agreed that individuals with AN have only themselves to blame for their disorder (Mond et al., 2006). In total, 63.2% of the sample endorsed the item that they were unwilling or had

mixed feelings about interviewing the target with AN for a job; 31.6% of the sample were unwilling or unsure about renting the target an apartment; and 33.6% found the AN target's behavior moderately to extremely irritating (Mond et al., 2006). Findings highlight an apparent ambivalence toward individuals with AN.

In addition, Whisenhunt et al.'s (2012) results suggested that individuals with AN may be perceived positively, particularly in cases when the individual's eating disorder status is unknown. The researchers sought to investigate the effect of receiving information about a woman's diagnosis of AN on perceptions of the woman's health and beauty. Participants (99 females and 89 males) were shown a professional photo of a female model who had publicly disclosed her diagnosis of AN. The model was best known for her work in Argentina, and it was assumed that participants would be unfamiliar with the model. No participant reported recognizing the model. The model was shown in a two-piece swimsuit and high heels. While not emaciated, the model was noticeably underweight. Participants were randomly assigned to one of the three experimental groups: the model (M) group (participants were told that the woman in the photo was a cover model), the eating disorders (ED) group (participants were told that the woman in the photo had AN), or the control (C) group (no description provided). It was found that when eating disorder status was provided, both males and females rated the model as less healthy but equally as attractive as participants in the model and control groups. In addition, no differences were observed in female participants' ratings on their desire to achieve a similar look as the model when ED status was given. That is, awareness of the model's diagnosis of AN did not affect female participants' desire to

look like the model regardless of the possibility that her appearance was the result of unhealthy eating behaviors. These findings intimate that women with AN may be viewed as physically attractive even when eating disorder status is known. In a society that perpetuates a thin-ideal, these results are not surprising, yet it is startling that women continue to want to achieve someone's look even though they acknowledge that the individual has impaired health. However, it is unknown at what stage of AN—and, thus, emaciation—these perceptions of health and physical attractiveness are maintained.

Perceptions of Underweight and Emaciated Individuals

Compared to the amount of research on perceptions of individuals with AN, studies examining perceptions of individuals with a significantly low body weight are relatively rare. Research examining weight bias has traditionally focused on overweight and obese individuals as compared to normal weight peers. However, research has begun to examine individuals across the weight continuum. While the number of studies exploring the perception of underweight individuals remains limited, results of these studies are particularly noteworthy.

AN is a disorder largely distinguished on the basis of weight status (APA, 2013). According to DSM-5 diagnostic criteria, a diagnosis of AN necessitates a significantly low body weight (APA, 2013). However, an individual with a BMI between 17.0 and 18.5 kg/m^2, or even above, might be considered to have a significantly low weight if physiological information or clinical history supports this decision. It can be difficult to distinguish between stigma pertaining to specific behavioral symptoms and that

associated with BMI. Weight presents a potentially significant confounding variable that confuses current understandings of stigma associated with eating disorders and needs to be explored more thoroughly. Given this, it is possible that the negative and/or positive perceptions associated with AN may be related to an individual's weight status rather than (or in addition to) the disorder status.

Studies examining weight bias have demonstrated that people tend to discriminate against extremely underweight and emaciated individuals in a variety of settings. One such study is by Swami and Monk (2013). Using a hypothetical university acceptance scenario, participants (n = 198) were asked to select the woman they were most and least likely to select for admission to college. Using images from the Photographic Figure Rating Scale (Swami, Salem, Furnham, & Tovée, 2008) participants chose from ten female figures ranging in body size, two images representing each of the following BMI categories: emaciated (< 15 kg/m^2), underweight (15-18.5 kg/m^2), normal weight (18.5-24.9 kg/m^2), and overweight (25-29.9 kg/m^2), and obese (> 30 kg/m^2). Findings showed that a majority (63.9%) of participants chose underweight women as the woman most likely to be selected for a place at a university. Emaciated and obese women were selected the most by participants as the woman *least* likely to be chosen, with the emaciated figure being selected more than the obese figure as least likely to gain admission (54.6% vs. 40.4%, respectively). Results of this study demonstrate a strong bias against both emaciated and obese women, particularly in higher educational settings.

Prior research has also shown that emaciated women experience bias and discrimination in other environments, such as occupational settings (Swami, Chan et al.,

2008; Swami, Pietschnig et al., 2010). In one study, Swami, Pietschnig et al. asked participants to rate a series of hypothetical women that varied in body weight in terms of occupational potential, parental ability, and the likelihood of being helped following a severe traffic accident. Results revealed significant discrimination against emaciated women, particularly in terms of job termination, as well as bias toward obese and overweight women in relation to job decisions. In comparison, underweight women were favored the most for hiring, promotion, child adoption, and for assistance following a severe traffic accident.

These results are similar to findings from previous work by Swami, Chan, et al. (2008). In this study, weight-based stigmatization in occupational hiring and helping behavior was examined using a vignette-style method. A sample of male participants were asked to rate photographic images of women with known BMI according to likelihood of occupational hiring for a managerial job or likelihood of helping behavior following a serious accident. Results showed that normal weight and underweight women were rated as being more likely to be hired and receive help, followed by women in the emaciated and overweight categories. Together, these findings suggest that emaciated women experience bias in various settings, whereas underweight women tend to be viewed more favorably.

Studies that rely on images of females have shown that underweight (but not emaciated) women tend to be regarded as the most physically attractive and ideal (Fan, Liu, Wu, & Dai, 2004; Kościński, 2013; Swami, Buchanan, Furnham, & Tovée, 2008; Swami et al., 2012; Swami, Taylor, & Carvalho, 2011). These studies have also found

that ratings of attractiveness tend to be lowest at either end of the weight continuum. Other research has demonstrated seemingly contradictory results regarding the body size perceived to be the most attractive in women. In a recent study by Kościński, both male and female participants were found to prefer, on average based on mean scores, an underweight silhouette (BMI = 17.3), yet they chose the severely underweight woman (BMI = 15) as the more attractive female the most frequently (based on median scores). Still, other research suggests that men regard low normal (BMI = 19-21) but not underweight women as the most attractive (see Swami & Tovée, 2007).

Swami and Monk (2013) suggested that there are common underlying factors motivating the stigmatization of both emaciated and obese individuals. That is, emaciated women may be discriminated against because they elicit negative evaluations of personal characteristics in a similar way as obese individuals (e.g., Stewart et al., 2006; Swami, Pietschnig, et al., 2010). For example, physical appearance evaluation and appearance orientation may be associated with stigmatization toward both emaciated and obese individuals. In a review of the literature by Smith (2012), weight stigma was equated with physical unattractiveness.

Attractiveness has been theorized to be an evaluation based on the perceived health and reproductive potential of the body being assessed (e.g., Buss, 2006; Thornhill & Gangestad, 1999). Given the health risks associated with AN and starvation, this may help to explain some of the bias directed at emaciated individuals. However, it ignores the roles of the media, culture, and society on defining what is considered attractive and physically ideal. It is perhaps these external factors that drive underweight women to be

deemed the most attractive rather than women of other healthy weight categories (i.e., normal weight).

Gender Differences in Perceptions of Anorexia Nervosa

Few studies have examined gender differences in perceptions of individuals with AN. In a study investigating attitudes and beliefs toward individuals with AN and muscle dysphoria (Griffiths et al., 2014), researchers found that male participants were more stigmatizing toward individuals with AN than female participants. Specifically, male participants believed characters with AN were more narcissistic, weirder, more likely trying to get attention for themselves, and less likely to be talked to by the participant about their problems.

Findings are consistent with those from a study by Mond and Arrighi (2011). Participants responded to questions related to vignettes of individuals with AN and BN. In their study, a significant minority of males, but not females indicated that AN would not be difficult to treat, that they would be a little or not at all sympathetic toward an individual with AN, and report that having AN would be only a little or moderately distressing. Specifically, 24.8% of males reported that they would be a little or not at all sympathetic toward an individual with AN, and a similar proportion (25.7%) believed that having AN would be only a little or moderately distressing. Findings hint that males may consider AN to be a less serious condition than females.

Additionally, Wingfield et al. (2011) examined differences in perceptions of individuals with AN and BN based on participants' gender. They found that women rated

individuals with an eating disorder as more likeable, yet more self-destructive. In comparison, male participants rated recovery from an ED as easier to achieve when compared to females. This result corroborates Mond and Arrighi's (2011) finding that males view AN as less distressing and less severe than females.

In a recent study by Makowski, Mnich, Angermeyer, Löwe, and von dem Knesebeck (2015), public attitudes that might be underlying stigma toward individuals with AN were explored. Significant gender differences in desire for social distance, causal attributions, and emotional reactions towards women with AN were found. For example, women more frequently believed that AN could be caused by sexual abuse during childhood, while men more frequently attributed weak will as a possible cause of AN. Women also exhibited a significantly greater desire for social distance than male respondents, and they expressed fear and pro-social emotions more than men. Based on the extremely limited number of studies examining gender differences in perceptions of individuals with AN, differences between males and females appear to exist. Further examination of these differences is warranted.

Methodological Limitations

A review of the literature on perceptions of attractiveness and body size reveals methodological inconsistences that call the generalizability of findings into question. Researchers have employed stimuli ranging from line-drawn figures (e.g., Furnham, Swami, & Shah, 2006; Singh, 1993; Swami, Rozmus-Wrzesinska, et al., 2008), to photographs of real women (e.g., Swami, Buchanan, et al., 2008; Swami et al., 2012;

Swami, Taylor, & Carvalho, 2011), and to digitally altered images (Kościński, 2013; Smith, Cornellius, & Tovée, 2007; Tovée, Edmonds, & Vuong, 2012).

Each stimulus has potential limitations that may affect the generalizability of the findings. Line-drawn figures have been criticized due to their lack of realism and unknown BMIs. Photographs seem to improve study validity by using real women with known BMIs, but they introduce confounding variables potentially contributing to perceptions of attractiveness, such as breast size, waist-to-height ratio, skin tone, and ethnicity. Digitally altered images allow researchers to control all other aspects of appearance, allowing only the variable of interest—in these cases, BMI—to vary. However, these images are limited depending on their believability. If an image is suspected to be digitally manipulated, participants may judge them under these pretenses, which would result in biases from alien affects (Conley & McCabe, 2011). Using images of real women would increase reliability and external validity.

Summary

In summary, the results of the literature reveal that negative perceptions of individuals with AN are common and widespread (Easter, 2012; Roehrig & McLean, 2010). This is apparent in such negative perceptions as the belief that AN is self-inflicted (Crisp et al., 2000), voluntarily maintained (Crisp, 2005; Holliday, Wall, Treasure, & Weinman, 2005), and a way to gain attention (Mond et al., 2006). It is also evident in feelings of envy and admiration of AN, given one's ability to control one's weight and exercise every day (Roehrig & McLean, 2010). However, research on the perception and

stigmatization of individuals with AN remains in its infancy, and thus has not fully examined the role of such key factors as target BMI, participant gender, and participant eating pathology.

Overall, the literature examining opinions and attitudes toward emaciated and underweight individuals is extremely limited. The majority of work in this area of research has typically focused on overweight and obese individuals, commonly using normal weight individuals as controls. Yet, as weight stigmatization is in its early development, findings suggest that stigma varies noticeably between underweight and extremely underweight. It is imperative that studies explore such potential correlates as BMI, gender, and eating pathology. In addition, methodological limitations need to be improved upon.

This study sought to clarify what impact the body size (e.g., BMI) of an individual with AN has on the perceptions and attitudes of others. Specifically, this study focused on perceptions of emaciated and underweight women. Based on the extremely limited number of studies examining gender differences in perceptions of individuals with AN, the effect of gender was investigated as well. The use of standardized photographic images of real women varying only in body size was used to enhance the external validity of findings and address methodological limitations in the existing research. Finally, this study examined whether there is a correlation between eating disorder pathology and stigmatization and perceived acceptability of AN.

CHAPTER III

METHODS

Participants

Participants were 257 university students recruited from undergraduate courses. The sample consisted of 187 female students (72.8%) and 70 male students (27.8%). Participants' ages ranged from 18 to 50, with a mean age of 22.51 (*SD* = 6.59). For the purpose of computing the mean age and standard deviation, individuals who reported their age as "50+" were calculated as having an age of 50. The majority of the sample identified as White (88.3%). Students identifying as Black/African American (.3%), Hispanic/Latino (3.5%), Asian (1.6%), and Mixed/Multiracial (5.1%) comprised the rest of the sample. A more detailed account of demographic information for the sample is listed in Table 1.

Prior to conducting data analysis, the data set was examined for unusable data. A total of 277 surveys were initiated. Twenty surveys (7.22%) were excluded from the data set due to incomplete questions. These cases were missing responses to at least one measure, and the majority of them were missing responses for multiple measures. Closer examination of the data revealed that most of these surveys were stopped prior to completion. The remaining 257 surveys comprised the data set on which analyses were based.

Table 1

Demographic Characteristics

Variable	*n*	% or *M*	*SD*
Gender			
Female	187	72.8%	
Male	70	27.8%	
Age (years)		22.51	6.59
Race			
American Indian or Alaskan Native	2	0.8%	
Asian	4	1.6%	
Black or African American	2	0.8%	
Hispanic/Latino	9	3.5%	
White	227	88.3%	
Mixed	13	5.1%	
Year in school			
Freshman	91	35.4%	
Sophomore	8	18.7%	
Junior	55	21.4%	
Senior	57	22.2%	
Graduate	4	1.6%	
Other	2	0.8%	
BMI (kg/m^2)		24.82	5.05
History of ED			
Previously diagnosed with an ED	14	5.4%	
Treated for an ED or issues related to eating	24	9.3%	
She/he suspects has/had an ED	54	21.0%	

Measures

Female Figure Images

The female figure images were selected from the Photographic Figure Rating Scale (PFRS; Swami, Salem, et al., 2008). The PFRS depicts a range of women varying in BMI from emaciated to obese. The original PFRS consists of ten photographic images

of real women in front-view, captured in a set pose, at a fixed distance, and wearing form-fitting leotards and leggings. The images are shown in gray scale and with their faces obscured so as to minimize and control for confounding variables, including skin tone, ethnicity, age, facial cues, and facial attractiveness. The initial selection of images was made from a much larger library of images based on graduated increases in actual BMI (calculated as weight in kilograms divided by the square of the height in meters, kg/m^2) and perceived body size (Tovée & Cornelissen, 2001; Tovée, Reinhardt, Emery, & Cornelissen, 1998). Successive image sets were then evaluated for inconsistency of increments between successive figures, and where appropriate, individual images were replaced or moved around within the set. The final set of images consists of ten women ranging in BMI from 12.51 kg/m^2 to 41.23 kg/m^2, with two women representing each of the five established BMI categories: emaciated (< 15 kg/m^2), underweight (15-18.5 kg/m^2), normal weight (18.5-24.9 kg/m^2), overweight (25.0-29.9 kg/m^2), and obese (> 30 kg/m^2).

By using real women rather than line drawings or computer-generated images, the PFRS has greater ecological validity and realism due to its ability to simulate a woman's biological form and anatomical structure. The PFRS has demonstrated good validity based on the finding that nearly all of the images were rank-ordered by BMI correctly (Swami, Salem, et al., 2008). In a community sample of 208 women, Swami, Salem, et al. (2008) reported that the scale showed good convergent validity in that ratings of current body size were correlated with self-reported BMI (r = .80) and body appreciation, a measure of positive body image (r = -.35).

Research has further demonstrated that body dissatisfaction, as measured by the PFRS (actual-ideal body weight discrepancy), is significantly associated with body appreciation, self-reported BMI, internalization of media messages of appearance, and acceptance of cosmetic surgery (Swami, Begum, & Petrides, 2010; Swami, Buchanan, et al. 2008; Swami, Campana, et al., 2011; Swami, Steadman, & Tovée, 2009; Swami et al., 2012; Swami, Taylor, & Carvalho, 2011). Construct validity of the measure was demonstrated by a significant correlation between PFRS ratings and actual BMI (Swami et al., 2012). Ratings on the PFRS had good test-retest reliability at 3 weeks (all *r*s > .85; Swami, Salem, et al., 2008) and 5 weeks (all *r*s > .87, Swami et al., 2012).

For the purpose of this study, only three of the ten images from the PFRS were used. The images were selected based on the AN section of the DSM-5 (APA, 2013). According to the DSM-5, significantly low body weight (Criterion A for a diagnosis of AN) is defined as "weight that is less than minimally normal or, for children or adolescents, less than that minimally expected" (APA, 2013, p. 991). Because Criterion A no longer provides a specific numerical standard to define significantly low weight (e.g., < 85% expected body weight) as previous editions of DSM did, the text offers guidelines on how to assess for a significantly low body weight. Based on BMI thresholds employed by the WHO (1995) and Centers for Disease Control and Prevention (CDC, 2014), a BMI that is less than 18.5 kg/m^2 would likely be considered a significantly low body weight.

Only the images depicting women with a BMI less than 18.5 kg/m^2 were used in the present study. Each image corresponds to a different severity level of AN. Based on

BMI, severity level is determined using ranges derived from WHO categories for thinness: 17+ kg/m^2 is considered mild, 16-16.99 kg/m^2 is considered moderate, 15-15.99 kg/m^2 is considered severe, and < 15 kg/m^2 is considered extreme (APA, 2013; WHO, 1995). As shown in Figure 1, Image 1 depicts a woman with a BMI of 14.72 kg/m^2 (extreme thinness). Image 2 depicts a woman with a BMI of 16.65 kg/m^2 (moderate thinness). Image 3 shows a woman with a BMI of 18.45 kg/m^2 (mild thinness). Each participant was exposed to only one image.

Participants were asked to describe the weight of the woman pictured. Response options ranged from "extremely underweight" to "extremely overweight." Data on how participants in the current sample perceived the weight of the female figure for each image are shown in Table 2.

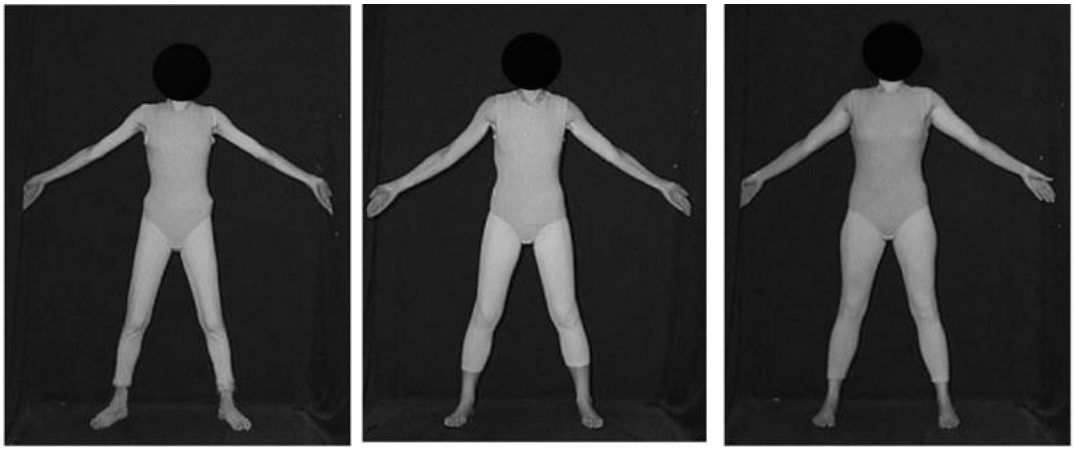

Image 1
BMI = 14.72 kg/m^2
("Extreme Thinness")

Image 2
BMI = 16.65 kg/m^2
("Moderate Thinness")

Image 3
BMI = 18.45 kg/m^2
("Mild Thinness")

Figure 1. The photographic images used in this experiment (adapted from Swami, Salem, et al. 2008).

Table 2

Responses to Item: "How Would You Describe the Weight of the Woman Pictured?"

	Body weight condition					
	BMI = 14.72 kg/m^2 "Extreme" (*N* = 83)		BMI = 16.65 kg/m^2 "Moderate" (*N* = 86)		BMI = 18.45 kg/m^2 "Mild" (*N* = 88)	
Response	*n*	%	*n*	%	*n*	%
Extremely underweight	17	20.5	0	0	1	1.1
Underweight	53	63.9	21	24.4	3	3.4
Normal	13	15.7	65	75.6	80	90.9
Overweight	0	0	0	0	4	4.6
Extremely overweight	0	0	0	0	0	0

Vignette

A vignette was developed describing a 19-year-old woman ("Emma") with AN (see Appendix A). The vignette was adapted from versions used by Mond and Arrighi (2010, 2012); Mond, Hay, Rodgers, Owen, and Beumont (2004); and Mond et al. (2006). The vignette was updated to reflect the changes in diagnostic criteria for AN as outlined in the DSM-5 (APA, 2013). Specifically, the phrase "her periods have stopped" was removed, as amenorrhea has been removed from the diagnostic criteria for AN. In two instances where the weight classification being studied is referenced (e.g., "denies that she is underweight"), the phrase was changed to avoid informing participants of the target's BMI. The resulting vignette describes a case meeting full DSM-5 diagnostic criteria for AN (APA, 2013), and explicitly states that the target has a diagnosis of AN. The same vignette was used across all three body weight conditions.

Eating Disorder Stigma Scale

The Eating Disorder Stigma Scale (EDSS; Crisafulli et al., 2010) is a 20-item Likert scale developed to assess stigma towards people with AN. Participants indicate the extent to which they agree with each statement as it pertains to individuals with AN (1 = *strongly disagree*, 5 = *strongly agree*). Higher scores indicate greater levels of stigma. Items are reverse scored as appropriate. The EDSS consists of four subscales: Trivial (α = .857), Selfish/Vain (α = .830), Weak (α = .828), and Blame (α = .801). For the purpose of this study, only the overall score was used in the analyses. Internal consistency for the overall 20-item scale is .901. Cronbach's alpha for the current sample is .89 for the full scale, .891 for the trivial subscale, .875 for the selfish/vain subscale, .894 for the weak subscale and .634 for the blame subscale.

Assessment of Perceived Acceptability

The Assessment of Perceived Acceptability (Mond & Arrighi, 2012) is a 10-item scale, comprised of three factors: (1) severity (three items), (2) personal acceptability (four items), and (3) social acceptability (three items) of AN. Items are scored on a 5-point Likert-type scale from 1 to 5. Higher scores for each factor indicate either a greater perception of the severity of AN or a greater perception of the acceptability/desirability of AN. Response options for one item ("Have you ever thought it might not be too bad to be like Emma?") are "never," "rarely," "occasionally," "often," and "always." Response options for the other nine items are "not at all," "a little," "moderately," "very," and "extremely" or "definitely not," "possibly," "mixed feelings/yes and no," "probably," and "definitely."

The measure has been shown to have good validity based on correlations (Spearman's rho) between age, body mass index (BMI), domain scores for each vignette, and overall levels of eating disorder symptoms, as measured by the EDE-Q global score (Mond & Arrighi, 2012). Reliability coefficients (Cronbach's alpha) for the severity, personal acceptability, and social acceptability domains are 0.69, 0.80, and 0.75, respectively. Only the subscale scores were used in the present study's analyses to access participants' perception of the severity of AN and acceptability/desirability of AN (personal acceptability and social acceptability combined). The overall score was not used in the analyses, since it was hypothesized that the relationship between perceptions of severity and acceptability of AN were inverse. In the present study, the severity subscale had a Cronbach's alpha of 0.60 and the acceptability subscale had a Cronbach's alpha of 0.70.

Eating Attitudes Test - 26

The Eating Attitudes Test - 26 (EAT-26; Garner & Garfinkel, 1979; Garner, Olmstead, Bohr, & Garfinkel, 1982) is a screening tool used to assess for the presence of eating disorder symptoms and concerns characteristic of eating disorders. The measure consists of 26 items, which are classified under three subscales: (1) Dieting—drive for thinness and dieting behaviors, (2) Bulimia and Food Preoccupation—food thoughts and bulimic behaviors, and (3) Oral Control—perceived pressure from others to gain weight and control eating (Garner et al., 1982). Sample items include "I am terrified about being overweight" and "Other people think that I am too thin." Items are rated on a 6-point Likert scale with responses ranging from "always," "usually," "often," "sometimes,"

"rarely," and "never." Although there are six possible ratings, "never," "rarely," and "sometimes" are typically scored as 0 points. EAT-26 total scores range from 0 (minimum) to 78 (maximum), with a cut-off score of 20. Scores of 20 or above indicate high levels of body weight concerns, dieting, and problematic eating behaviors, but they do not necessarily indicate the presence of an eating disorder.

The EAT-26 has been shown to be reliable and valid, with Cronbach's alphas of .83 for female undergraduates and .90 for women with AN (Garner et al., 1982). Based on the results of a discriminant function analysis, criterion-related validity is also good. Specifically, the percentage of cases correctly classified based on total score was 83.6% (Garner et al., 1982). The EAT-26 was administered to all participants to assess for eating disorder symptoms and concerns.

Although eating disorder symptomatology is not the focus of this study, it is possible that participants scoring 20 or above on the EAT-26 might represent a unique subset of the sample that may skew the results. Specifically, in this study, the EAT-26 was used to determine whether participants with scores above 20 represented a unique subset of the sample, possibly by having higher scores on the Assessment of Perceived Acceptability and lower scores on the EDSS than participants with scores of 19 or below. Therefore, the EAT-26 total score was used to identify participants at risk for abnormal eating attitudes and behaviors and to see if higher scores on the EAT-26 are associated with more favorable perceptions of individuals with AN and lower levels of stigma. Internal consistency was calculated for the sample and Cronbach's alpha for the EAT-26 total score was 0.89. EAT-26 subscales were not used in the analysis in this study.

Demographics Form

The purpose of the demographics questionnaire (see Appendix B) was to obtain participants' age, gender, race/ethnicity, class year, and major. Participants were asked to report their current height and weight, which was used to calculate participants' BMI. Additionally, participants were asked if they have ever been diagnosed with an ED and if so, which one(s). They were asked if they have ever received treatment for an ED or issues related to eating and if they believed they might have or have had an ED.

Procedures

The current study consisted of an online survey for individuals ages 18 and above. Participants were students enrolled in an undergraduate psychology course at a large state university. Students were recruited to participate through the SONA system during the Summer and Fall 2015 semesters. The survey took less than 30 minutes to complete. Participation was completely voluntary and participants were allowed to discontinue at any time. Participant responses to the survey questions were anonymous and were not connected to any identifying information. Of the 277 participants, 20 did not answer all of the questions. A review of the data did not find any systematic reasons for the incomplete questions, and these cases were removed from the data set. Thus, 257 participants were included in the analyses.

Once recruited, participants were routed to Qualtrics where they were presented with an IRB-approved Letter of Information. Upon indicating agreement, participants were randomly assigned to one of three conditions. The extreme thinness condition

included 83 participants (32.3%), the moderate thinness condition included 86 participants (33.5%), and the mild thinness condition included 88 participants (34.2%). Participants viewed the image corresponding to their assigned condition, which depicted a female figure with a BMI of 14.72 kg/m^2 (extreme thinness), 16.65 kg/m^2 (moderate thinness), or 18.45 kg/m^2 (mild thinness) for 10 seconds before being allowed to proceed. A set length of time was used in an attempt to increase participants' attention to the image presented. After 10 seconds, participants were asked to describe the weight of the woman pictured. Response options ranged from "extremely underweight" to "extremely overweight."

Next, participants were asked to read a vignette. Adapted from those used in previous research (e.g., Mond & Arrighi, 2012; Mond et al., 2006), the vignette described a college student named "Emma" with AN. The vignette explicitly stated the diagnosis ("Emma has been diagnosed with anorexia nervosa") and described a case meeting full diagnostic criteria for AN as outlined in the DSM-5 (APA, 2013). The same vignette was used with all three body weight conditions.

Following presentation of the vignette, participants were asked to complete the EDSS, APA, and EAT-26, which were presented in random order to counterbalance the effect of order administration. The EDSS and the APA assessed for stigma toward individuals with AN, perceived acceptability of ED, and perceived severity of ED; whereas, the EAT-26 assessed for eating pathology (e.g., problematic eating behaviors, dieting, and body concerns). Items in the EDSS and the APA were changed to refer to the person described in the vignette ("Emma"). An item was added that asked participants

what they thought Emma's main problem was to assess people's knowledge and beliefs about AN. Lastly, participants filled out a short demographics questionnaire. Upon completion, participants received extra course credit for their participation.

Statistical Analysis

Power Analysis

Prior to data collection, a power analysis was conducted using G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) to determine a statistically appropriate sample size. The power analysis made the following assumptions: (1) power of 0.80 and above was acceptable, (2) alpha was set at .05, and (3) the effect size was equal to 0.25. Based on these assumptions, it was determined that a sample size of 250 would be able to yield a power around 0.95 and be able to detect a significant difference at the 0.05 level.

Data Analysis

For descriptive purposes, means, frequencies, and standard deviations were obtained for demographic variables, such as age, race, gender, BMI (calculated using height and weight), as well as measure variables. In order to determine whether any relationship, inverse or not, existed in the data for eating disorder symptom level and the dependent variables (eating disorder stigma, perceived severity of AN, and perceived acceptability of AN), Pearson's *r* correlations were utilized to determine the relationship between EAT-26 scores and scores on the EDSS and APA.

A multivariate analysis of variance (MANOVA) was conducted to examine the main effects of participant gender and target BMI on eating disorder stigma, perceived

acceptability of AN and perceived severity of AN and any interaction between them. With consideration of the multivariate analysis of variance, if there were any significant associations between variables, then post-hoc analysis were conducted for significant results using *t* tests with Bonferroni correction.

CHAPTER IV

RESULTS

Means and standard deviations for all variables were calculated across all respondents. Table 3 provides the count of scores, range of scores, minimum score, maximum score, mean score, standard deviation, and skewness for the measures of eating disorder stigma, perceived acceptability of AN, perceived severity of AN, and eating disorder symptom level. Means and standard deviations for males and females across target body weight conditions are shown in Table 4.

Research Question 1: Eating Disorder Symptom Level, Stigmatization and Perceived Acceptability

The first research question asked: are there associations between eating disorder symptom level and stigmatization of eating disorders, perceived acceptability of AN, and perceived severity of AN?

Table 3

Descriptive Statistics on Measures of ED Stigma, Acceptability/Severity, and ED Symptoms

Scale/Subscale	Range	*M*	*SD*	*n*	*%*
EDSS total	21-73	43.15	0.26		
APA					
Severity	5-15	12.26	1.75		
Acceptability	7-32	13.06	3.79		
EAT-26 Total	0-59	9.11	9.96		
Low ED symptom level (< 20)				227	88.3
High ED symptom level (≥ 20)				30	11.7

Table 4

Means and Standard Deviations for Test Measures

	Female rater (body weight condition)			Male rater (body weight condition)		
Dependent variable	Extreme thinness	Moderate thinness	Mild thinness	Extreme thinness	Moderate thinness	Mild thinness
EDSS total						
M	40.61	41.44	43.97	45.36	48.95	44.62
SD	10.27	10.39	9.28	12.74	9.40	8.40
Range	21-68	23-62	29-72	28-73	32-71	26-59
N	61	64	62	22	22	26
APA severity						
M	12.62	12.39	12.61	11.73	10.77	11.92
SD	1.53	1.88	1.43	1.64	2.20	1.57
Range	8-15	6-15	8-15	8-14	5-14	10-15
N	61	64	62	22	22	26
APA acceptability						
M	13.49	13.30	12.95	12.23	12.55	12.85
SD	4.00	3.80	4.37	2.78	2.81	3.21
Range	7-28	7-22	7-32	7-18	9-18	8-20
N	61	64	62	22	22	26
EAT-26 total						
M	11.30	9.36	10.50	5.77	5.00	6.35
SD	10.98	10.16	11.71	6.21	4.80	5.50
Range	1-48	0-54	1-59	0-26	0-20	0-18
N	61	64	62	22	22	26

In order to address this question, a correlation analysis was conducted to examine how eating disorder symptom level (as measured by the EAT-26) related to the stigmatization of eating disorders (as measured by the EDSS), perceived acceptability of AN (as measured by the APA acceptability subscale) and perceived severity of AN (as measured by the APA severity subscale). The correlation analyses revealed a significant

positive association between eating disorder symptom level and perceived acceptability of AN (r = .429, p < .01). Thus, higher levels of eating disorder symptom level were associated with greater acceptability/desirability of AN. Higher levels of eating disorder symptoms were moderately correlated with greater perceived severity of AN (r = .167, p < .01). There was no significant correlation between eating disorder symptom level and eating disorder stigma. Table 5 displays the correlation matrix for all variables.

To further evaluate these relationships, correlations were calculated separately for males and females. Consistent with the overall finding, there was a significant relationship for both males and females. A correlation analysis revealed that for both males and females, higher ED symptom levels were associated with greater acceptance of AN. This relationship was found to be stronger among females (r = .45, p < .01) compared to males (r = .247, p < .05). A significant positive association between eating

Table 5

Correlations Between ED Symptomatology, ED Stigma, Perceived Acceptability of AN, and Perceived Severity of AN for Overall Sample

Measure		EAT-26 total	EDSS total	APA acceptability
EDSS total	Pearson correlation	-.108		
	Sig. (2-tailed)	.084		
	N	257		
APA acceptability	Pearson correlation	.429**	.088	
	Sig. (2-tailed)	.000	.159	
	N	257	257	
APA severity	Pearson correlation	.167**	-.503**	-.162**
	Sig. (2-tailed)	.007	.000	.009
	N	257	257	257

** Correlation is significant at the 0.01 level (2-tailed).

disorder symptom level and perceived severity of AN was also found in women (r = .146, p < .05). Thus, a higher level of ED symptoms was associated with perceiving AN as more severe when the participant was female. Further results of the correlation analysis can be found in Table 6.

When using the EAT-26 cut-off score to divide the sample into groups with either high (scores ≥ 20) or low (scores < 20) eating disorder symptom level, an independent samples *t* test (Table 7) showed similar results. Significant differences between groups

Table 6

Correlations Between ED Symptomatology, ED Stigma, Perceived Acceptability of AN, and Perceived Severity of AN for Males and Females

Gender		Correlation	EAT-26 total	EDSS total	APA acceptability
Male	EDSS total	Pearson correlation	-.100		
		Sig. (2-tailed)	.411		
		N	70		
	APA acceptability	Pearson correlation	.247*	-.036	
		Sig. (2-tailed)	.039	.765	
		N	70	70	
	APA severity	Pearson correlation	.024	-.508**	-.204
		Sig. (2-tailed)	.842	.000	.089
		N	70	70	70
Female	EDSS total	Pearson correlation	-.071		
		Sig. (2-tailed)	.336		
		N	187		
	APA acceptability	Pearson correlation	.450**	.145*	
		Sig. (2-tailed)	.000	.047	
		N	187	187	
	APA severity	Pearson correlation	.146*	-.467**	-.191**
		Sig. (2-tailed)	.046	.000	.009
		N	187	187	187

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 7

Independent t *Test Comparing Groups with High and Low ED Symptom Levels*

Measure	ED symptom level	*N*	*M*	*SD*	*t*	*p*	*d*
EDSS total	Low	227	43.48	9.94	1.40	.164	.248
	High	30	40.70	12.36			
APA acceptability	Low	227	12.63	3.28	-5.25	.000**	.658
	High	30	16.30	5.47			
APA severity	Low	227	12.18	1.69	-2.05	.042*	.257
	High	30	12.87	2.06			

Note. Low ED symptom level = EAT-26 Total < 20; High ED Symptom Level = EAT-26 Total ≥ 20).\

* Significant at the 0.05 level (2-tailed).
** Significant at the 0.01 level (2-tailed).

with and without ED symptomology were found on APA Acceptability and Severity subscales. Participants at risk for having an ED ("high ED symptom level") reported significantly greater acceptance of AN than participants indicating few, if any, ED symptoms ("low ED symptom level"), $t(255) = -5.25$, $p = .000$, $d = .658$. Using Cohen's guidelines for interpreting effect size magnitude (Cohen, 1988), the effect size was moderate. Participants in the high ED symptom level group also reported viewing AN as significantly more severe than participants in the low ED symptom level group. $t(255) = -2.05$, $p < .05$, $d = .257$. The effect size of this analysis was small, but meaningful.

To further examine associations between eating disorder symptom level and various factors, additional analyses were conducted to determine whether gender differences existed in eating disorder symptom levels among males and females. As shown in Table 8, an independent t-test revealed that women ($M = 10.37$, $SD = 10.93$) reported significantly higher levels of eating pathology than men ($M = 5.74$, $SD = 5.48$),

Table 8

Independent t *Test Comparing Overall ED Symptom Levels in Males and Females*

Measure	Gender	*N*	*M*	*SD*	*t*	*p*	*d*
EAT-26 total	Male	70	5.74	5.48	-3.38	.001**	.42
	Female	187	10.37	10.93			

** Significant at the 0.01 level (2-tailed).

$t(255) = -3.38$, $p = .001$, $d = .42$. Cohen's effect size value suggested low practical significance.

Research Question 2: Participant Gender and Target Body Weight

To address Research Question 2, which sought to examine the impact of target body weight and participant's gender on ED stigmatization, perceived severity of AN, and perceived acceptability of AN, a factorial MANOVA was conducted with participant gender (gender: male, female) and figure body weight (weight: extreme thinness, moderate thinness, mild thinness) as the independent variables and eating disorder stigma, perceived severity of AN, and perceived acceptability of AN as the dependent variables. A nonsignificant interaction effect was found between body weight and gender, $F(6, 498) = 1.05$, $p = .393$, $\eta_p^2 = .012$. A significant main effect for participant gender was found, Wilks' lambda = .904, $F(3, 249) = 8.82$, $p < .001$. Although significant, the effect size of this relationship was weak, as indicated by partial eta-squared = .096. The main effect of weight was nonsignificant, $F(6, 498) = 1.31$, $p = .252$, $\eta_p^2 = .016$, suggesting that body weight condition has no effect on any of the test variables.

Follow-up analyses examining weight effects were conducted in an exploratory manner. Univariate ANOVAs examined effects by factor and found that only one of the measures, APA severity, appeared to vary significantly with weight condition, $F(2, 251) = 3.30$, $p = .038$, $\eta_p^2 = .026$ (Table 9). The follow-up univariate post-hoc comparisons between participant groups using *F* statistics and Bonferroni-type simultaneous confidence intervals based on *t* distribution showed that there were significant gender differences on the overall level of ED stigma ($p = .003$; $\eta_p^2 = .036$) and APA severity ($p = .000$; $\eta_p^2 = .075$), but not APA acceptability ($p = .186$, $\eta_p^2 = .007$). Females had higher scores than males on both the APA severity subscale ($M = 12.54$ for females; $M = 11.47$ for males) and the APA acceptability subscale of AN ($M = 12.54$ for females; $M = 13.25$ for males), but lower scores on the EDSS total ($M = 42.0$ for females; $M = 46.31$ for males). Table 10 shows the means on the EDSS, APA severity subscale, and the APA

Table 9

Tests of Between-Subjects Effects

Source	Dependent variable	Type III sum of squares	*df*	Mean square	*F*	Sig.	Partial eta squared
Weight	EDSS total	160.83	2	80.41	.794	.453	.006
	APA severity	18.64	2	9.32	3.303	.038	.026
	APA acceptability	.13	2	.06	.004	.996	.000
Gender	EDSS total	940.59	1	940.59	9.286	.003	.036
	APA severity	57.80	1	57.81	20.484	.000	.075
	APA acceptability	25.35	1	25.35	1.760	.186	.007
Weight * gender	EDSS total	416.26	2	208.13	2.055	.130	.016
	APA severity	8.04	2	4.02	1.425	.243	.011
	APA acceptability	11.66	2	5.83	.404	.668	.003

Table 10

Estimated Marginal Means

				95% Confidence Interval	
Dependent variable	Gender	Mean	Std. error	Lower bound	Upper bound
EDSS total	Male	46.311	1.207	43.935	48.688
	Female	42.004	.736	40.554	43.454
APA severity	Male	11.474	.201	11.078	11.871
	Female	12.542	.123	12.300	12.784
APA acceptability	Male	12.540	.455	11.643	13.436
	Female	13.247	.278	12.700	13.794

Acceptability subscale by gender. All other main effects and interactions were non-significant. See Figures 2, 3, and 4 for additional data.

Additional analyses were conducted for exploratory purposes. One interesting finding worth noting examined participants' perceptions of AN in relation to their recognition/understanding of the disorder. When participants were asked to identify the ''main problem'' of the person described, 127 (49.4%) of the sample chose "low self-esteem/lacks self-confidence." Only 100 (38.9%) participants identified the main problem as "anorexia nervosa," even though the vignette explicitly states the diagnosis of AN. Table 11 describes the frequencies and percentages of responses for the sample in further detail.

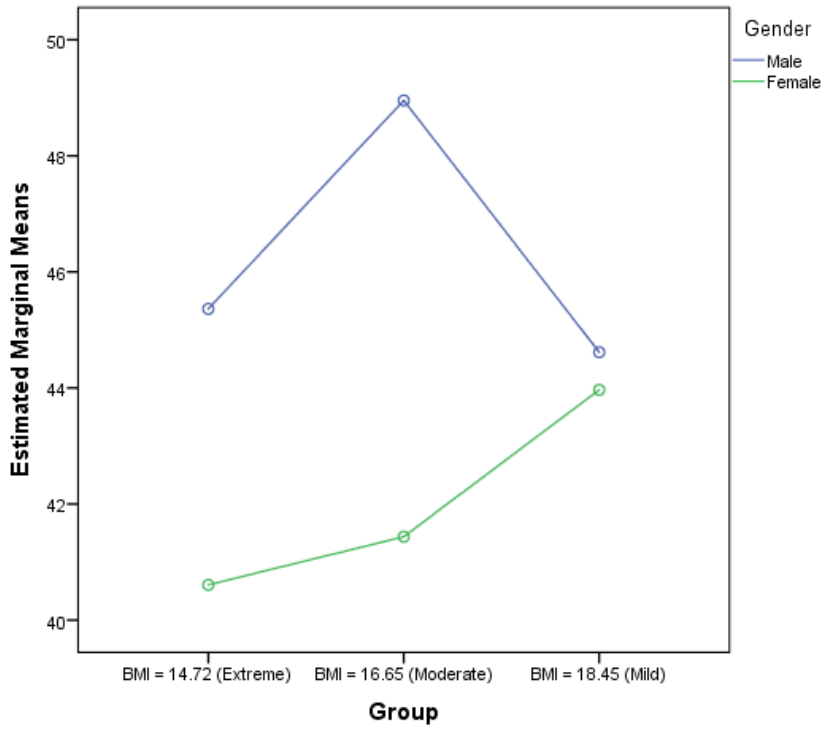

Figure 2. Estimated marginal means for eating disorder stigma.

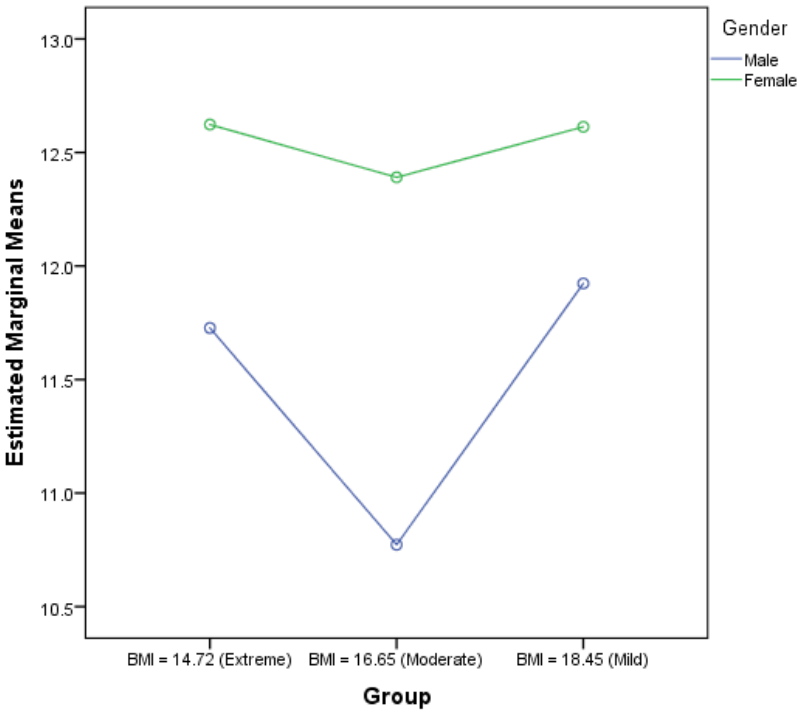

Figure 3. Estimated marginal means for perceived severity of anorexia.

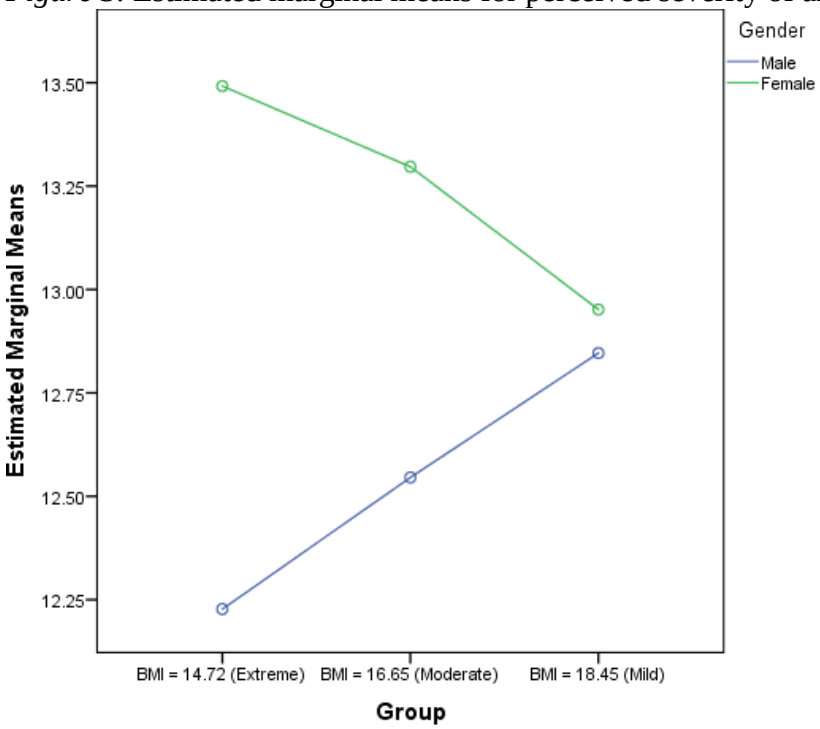

Figure 4. Estimated marginal means for perceived acceptability of anorexia.

Table 11

Responses to Item: "In Your Opinion, What Would You Say Emma's MAIN Problem is?"

	Total (n = 257)		Males (n = 70)		Females (n = 187)	
Main problem	*n*	%	*n*	%	*n*	%
No real problem, just a phase	3	1.2	2	2.9	1	.5
Bulimia nervosa	3	1.2	2	2.9	1	.5
Anorexia nervosa	100	38.9	26	37.1	74	39.6
Depression	6	2.3	0	0	6	3.2
Anxiety problem/disorder	16	6.2	1	4.3	13	7.0
Lack of will-power/self-control	2	.8	1	1.4	1	.5
Low self-esteem/lacks self-confidence	127	49.4	36	51.4	91	48.7

CHAPTER V

DISCUSSION

The present study investigated perceptions, attitudes, and beliefs toward individuals with eating disorders of varying weight. The primary aim was to examine the associations between eating disorder symptom level and stigma toward eating disorders, perceptions of acceptability/desirability of AN, and perceptions of severity of AN. The second aim was to investigate the impact of body weight on males' and females' perceptions and attitudes toward AN, specifically on their stigma toward eating disorders, perception of severity of AN, and perception of acceptability or desirability of AN. By showing participants one of three female figures varying only in body size and asking them to read a vignette describing a person meeting full DSM-5 diagnostic criteria for AN, this study sought to extend the current research by investigating the relationships of body weight, gender, and eating disorder symptomology with stigma toward ED, perceived acceptability of AN, and perceived severity of AN.

Regarding the first aim, it was hypothesized that an inverse relationship would emerge between eating disorder pathology in participants and stigmatizing attitudes and beliefs. That is, higher levels of eating disorder symptoms in participants would be associated with lower levels of eating disorder stigma, greater levels of acceptance/ desirability of AN, and lower levels of perceived severity of AN. In support of the hypothesis, findings revealed that increased acceptability/desirability of AN and greater perceptions of AN severity were associated with higher levels of eating disorder symptoms. This is consistent with previous research. For example, similar to the finding

that participants with higher levels of eating disorder symptoms demonstrated greater acceptance of AN, previous studies have found that individuals reporting elevated ED symptom levels are more likely to rate behaviors and symptoms of AN as acceptable (Mond et al., 2006, 2012). In contrast to the hypothesis, current self-reported eating disorder symptoms were not significantly associated with lower levels of eating disorder stigma. The non-significant finding is consistent with research suggesting that acquaintance and stigma toward eating disorders are not associated (Ebneter, Latner, & O'Brien, 2011; Makowski et al., 2015; Wingfield et al., 2011).

It has been suggested that exposure to individuals who suffer from mental health problems may reduce stigma. However, in a study by Ebneter et al. (2011), participants with personal experience or who knew someone with the depicted problem did not have lower stigma scores than those who did not. Similarly, Wingfield et al. (2011) found that having a close friend or family member with an eating disorder did not impact participants' perceptions of AN. Overall, these findings suggest that personal experience with eating disorders may have little to no impact on stigma towards individuals with AN.

In regard to the second aim, it was hypothesized that participants exposed to the Extreme Thinness weight condition (a figure with a BMI of 14.72 kg/m^2) would show stronger bias toward eating disorders, perceive AN as more severe, and consider AN to be less acceptable/desirable when compared to those in the Moderate Thinness (BMI = 16.65 kg/m^2) and Mild Thinness (BMI = 18.45 kg/m^2) weight conditions. Findings did not support this hypothesis. Contrary to expectations, there was no significant group

differences found in eating disorder stigma, perceived acceptance of AN, and perceived severity of AN according to weight conditions. This suggests that body weight has no effect on stigmatizing attitudes and perceptions of AN. This is surprising considering the large body of research demonstrating weight bias (Puhl, Latner, King, & Luedicke, 2014; Swami, Buchanen, et al., 2008; Swami, Chan, et al., 2008; Swami, Pietschnig, et al.2010). Given that the present study is the first to assess for the relationships between an individual's severity of AN—as determined by BMI—and how other's perceive them in relation to their eating disorder diagnosis, this finding is difficult to interpret. Perhaps the figures were not realistic enough or it is just that weight does not contribute to stigma, but the diagnosis does. The finding that perceptions of AN did not differ among weight conditions could be attributed to issues in study design and measurements. When asked to describe the weight of the female figures, participants frequently described the figure as normal weight even though all three figures were underweight. Since participants often viewed the figures in a different weight category then intended, manipulation of weight may not have worked as intended. Additionally, participants viewed greyscale figures with blurred faced on a computer/electronic screen of an unknown size. This may have hindered participants' ability to fully assess weight and appearance and react in the same way as they would with a real person. Thus, findings may be limited in their generalizability to how individuals with AN are perceived in reality. Furthermore, unlike other mental disorders, behaviors of AN are typically done in secret and one's diagnosis is typically not known. It is one's weight that cannot be hidden. Since individuals with AN often hide and deny their illness, it is only once an individual's weight becomes

significantly and extremely low that one's diagnosis can be more easily recognized. Since the generalizability of this study is questionable, additional research is recommended where an individual's diagnosis of AN is investigated in relation to how their weight interacts to influence the perceptions, attitudes, and behaviors of others.

It was also hypothesized that female participants would perceive AN as more positive and acceptable, and as less severe than male participants. The findings did not provide support in that responses consistent with greater acceptability were not more common among women. On the other hand, the hypothesis was partially supported in that male and female participants differed significantly in their perceptions of AN severity and eating disorder stigma. Females indicated less stigma toward EDs and reported perceiving AN to be more serious than males. The present findings are consistent with previous results showing that male and female participants differ in their beliefs toward characters with AN. For example, males have been found to perceive AN as less severe than females (Griffiths et al., 2014; Mond & Arrighi, 2011; Wingfield et al., 2011). In a study by Griffiths, Mond, Murray, and Touyz (2015b), males were found to report more positive beliefs about a target with AN than females, which was explained as a reflection of men's tendency to view AN as a less serious condition than women.

It is also worth noting that results showed an interesting finding with respect to recognition of AN. Similar to participants in Mond et al.'s (2004a, 2006, 2012) research, participants in the current study were asked to identify the ''main problem'' of the person described. Nearly 50% of participants selected "low self-esteem/lacks self-confidence" rather than "anorexia nervosa" or "anxiety problem/disorder." Beliefs of this kind may

signify a general lack of knowledge about eating disorders. The notion that AN is actually a reflection of low self-esteem even when presented with diagnostic information may be associated with the belief that eating disorders are not *true* mental health disorders and may contribute to the ongoing stigmatization of anorexia nervosa.

Limitations and Future Directions

Several limitations should be considered when interpreting the present findings. First, participants were university students who chose to complete an online assessment, as opposed to a general population sample of men and women. University students may be more knowledgeable of AN. Individuals' reports of their attitudes concerning eating disorders may be subject to a social desirability bias as well.

Second, it is important to note that the APA, EDSS and PFRS suffer from a lack of an in-depth examination of its psychometric properties. Although previous work has shown that the PFRS has high construct validity and test-retest reliability when completed by women (Swami, Salem, et al., 2008), further research is required to examine the scale's psychometrics when completed by men. Moreover, while the present study extended the available literature by examining the impact of figures of varying weight, future research should be mindful of the manner in which the figures are presented. Specifically, in the present study, the images from the PFRS were shown on a computer screen limiting the size of the images to be viewed. As a result, the images likely lacked ecological and construct validity. Furthermore, there are not any well-developed measures of ED attitudes and beliefs, so findings from the EDSS and APA

should be considered tentative until replicated. Given the above, it is recommended that additional research in this area is conducted with a focus on improving ED stigma measures or creating new ones. Future studies could employ a controlled experimental design using a range of assessment techniques to investigate the effects of interacting with underweight individuals identified as having AN (who would actually asymptomatic confederates).

Finally, it would be beneficial to add a comparison group, such as a mental or physical health condition(s) and/or male targets and vignettes. A greater sample would likely need to be attained to allow for adequate power when comparing across additional groups, but the findings would be more informative and conclusive.

Implications of the Current Study

In conclusion, this preliminary examination of the impact of body weight in individuals with AN indicates that although significant stigma of eating disorders exists, short-term exposure to extremely thin female figures is not associated with increased level of stigma. Differences between males and females and individuals with high and low eating disorder symptom level were found to be related to stigma toward AN, perceptions of acceptability of AN, and beliefs about the severity of AN.

Although this finding should be replicated using other assessments of stigmatization, other types of female figure images, and a larger sample size from the general population, findings contribute to knowledge about what may or may not contribute to stigma of ED and perceptions of acceptability. These results corroborate

previous findings suggesting significant rates of stigmatization of AN, and suggest a need to examine other potential influences, including gender, ED symptom level, and body weight, to determine the source of this stigma. It is only once we have a better understanding of the stigma toward eating disorders and the origin of perceptions that we can work to reduce it.

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APPENDICES

Appendix A

Vignette

Vignette

Emma is a 19-year-old student in her second year of college. Although she has never been severely overweight, Emma had been very conscious of the changes in her body shape that occurred during adolescence and has always wanted to be thinner. During her first year of college, she joined a fitness program at the gym and started running daily. Through this effort, she gradually began to lose weight. At the same time, Emma started to "diet," avoiding fatty foods, not eating between meals, and trying to eat set portions of "healthy foods." On some days, she does not eat anything at all. Through this combination of dieting and exercise, Emma has further reduced her weight, making her well below average for her age and height. Despite her increasingly thin appearance, Emma continues to feel overweight. In fact, she is terrified of becoming "fat" and refuses to make any effort to gain weight. As a result, Emma's relationship with her family has become strained, and her grades have started to slip. Emma has been diagnosed with AN.

Appendix B

Demographics Form

Demographics Form

1. Please enter your current age: _____

2. Gender: _____Male _____Female

3. Which category or categories best describe your racial/ethnic background? (check all that apply)
   _____White
   _____Black or African American
   _____Hispanic/Latino
   _____Asian
   _____American Indian or Alaska Native
   _____Native Hawaiian or other Pacific Islander
   _____Other (please describe) _____

   *If you selected more than one category, with which racial/ethnic background do you most identify? _____

4. What year are you in school?
   _____Freshman
   _____Sophomore
   _____Junior
   _____Senior
   _____Graduate Student
   _____Not enrolled
   _____Other (Please describe) _____

5. What is your current or intended major? _____

6. Please indicate your height: _____feet _____inches

7. Please indicate your current weight (in pounds): _____

We are interested in the number of participants who have experienced eating disorders. We realize that this is highly personal information and you may choose to skip any questions or elect not to answer. However, this information is important in helping others in similar situations. Again, we remind you that this questionnaire is completely **anonymous** and **confidential.**

Thank you.

8. Have you ever been diagnosed with an eating disorder?
   _____Yes _____No

9. Have you ever been treated for an eating disorder or issues related to eating?
   _____Yes _____No

10. Do you suspect you have/have had an eating disorder?
    _____Yes _____No

11. Please specify which eating disorder you have been diagnosed with: _____